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PATENT

Attorney Docket No. 53394.000586

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:)
Lee W. JOHNSTON, et al.)
Serial No.: 09/997,233)
Filed: November 30, 2001)
)
Examiner: Unknown
)
Group Art Unit: Unknown
)

For: IMPROVED CONVECTION OF
ABSORBENT CORES PROVIDING
ENHANCED THERMAL TRANSMITTANCE

Assistant Commissioner for Patents
Washington, D.C. 20231

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Sir:

TECHNOLOGY CENTER R3700

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PETITION TO MAKE SPECIAL

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This is a Petition To Make Special under 37 C.F.R. § 1.102(d) for accelerated

examination of the above-referenced application that was filed on November 30, 2001. The petition fee under 37 C.F.R. § 1.17(h) is enclosed. The Commissioner is authorized to charge any further fees or credit any overpayments to Deposit Account No. 50-0206.

This Petition To Make Special is being made under MPEP 708.02 (VIII). In accordance with that section, the applicants have caused a pre-examination search to be made. Applicants searched on the United States Patent and Trademark Office database (www.USPTO.gov), for all years available, according to the following search parameters:

Class	Subclass	Search Fields	Search Terms / Restrictions
428, 442	(no restriction)	(all fields)	the following terms alone or in combination: “clo,” “thermolabo,” “thermal transmittance,” “thermal resistance,” “heat transfer”
604	(no restriction)	(all fields)	the following terms alone or in combination: “absorbent,” “absorbent article,” “cellulose ester,” “cellulose acetate,” “cellulose,” “cellulos\$,” “tow,” “clo,” “thermolabo,” “heat transfer,” “heat,” “garment,”

			"thermal," "thermal comfort," "comfort," "insulat\$,," "watts/m\$"
(no restriction)	(no restriction)	(all fields)	the following terms alone or in combination: "clo," "thermolabo"

Applicants previously submitted an Information Disclosure Statement (IDS) on February 28, 2002. A Supplemental IDS is being filed herewith disclosing additional references found in the pre-examination search conducted to meet the requirements for filing this petition.

Out of all of the documents now submitted to the Patent Office, the following documents are believed by the applicants to be the most relevant to the claims pending in the application as filed.

1. U.S. Statutory Invention Registration No. H1565 to Brodof *et al*, ("Brodof").

(Brodof was cited in the IDS filed on February 28, 2002.)

Brodof discloses an absorbent article that includes immobilized superabsorbent in a high-integrity fiber structure, such as cellulose ester tow having crimped filaments. The superabsorbent particles are immobilized in the fibers with the use of a tackifying agent. Brodof contains no disclosure regarding the thermal transmittance of the filament web, or that any particular combination of components disclosed therein could produce an absorbent article having a low thermal resistance. In contrast to Brodof's disclosure, the present claims recite an absorbent article with a thermal resistance (clo) value below 1.7 watts/m² (which improves comfort to the wearer). The present claims also recite a combination of materials that has been found to exhibit thermal resistance values within the claimed range.

2. U.S. Patent No. 6,068,620 to Chmielewski ("Chmielewski")

(Chmielewski was cited in the IDS filed on February 28, 2002.)

Chmielewski discloses an absorbent article that contains an absorbent laminate formed from at least one and preferably more than one laminate comprising three layers, including an upper layer, a lower layer and a central fibrous layer containing from about 50-95% by weight superabsorbent polymer. The upper and lower layers together assist to maintain the integrity of the core during manufacture and use, contain the superabsorbent polymer within the insult area of the garment and act to diffuse multiple insults so that gel blocking is minimized.

Chmielewski contains no disclosure regarding the thermal transmittance of the absorbent article, or that any particular combination of components disclosed therein could produce an absorbent article having a low thermal resistance. In contrast to Chmielewski, the present invention claims recite an absorbent article having a thermal resistance (clo) value below 1.7 watts/m² (which improves comfort to the wearer). The present claims also recite a combination of materials that has been found to exhibit thermal resistance values within the claimed range.

3. U.S. Patent No. 5,749,259 to Hamouda *et al.*, ("Hamouda")

(Hamouda was cited in the IDS filed on February 28, 2002.)

Hamouda discloses a sweating hot plate apparatus simulating the thermoregulatory behavior of human skin, as well as a method for predicting fabric comfort level with the apparatus. Hamouda does not disclose the thermal resistance for an absorbent article, or any means for obtaining an absorbent article having a low thermal resistance. In contrast to Hamouda's disclosure, the present claims recite an absorbent article having a thermal resistance (clo) value below 1.7 watts/m² (for improved wearer's comfort), and the claims recite a combination of materials that exhibits thermal resistance values within the claimed range.

4. U.S. Patent No. 6,152,906 to Faulks *et al.*, ("Faulks")

Faulks discloses an absorbent article having a breathable back sheet and an absorbent core with highly porous regions that exhibits an increased air exchange rate during use. "As a result, the article maintains the temperature and exhibits substantially reduced levels of hydration of the wearer's skin when in use." Faulks, Abstract. Faulks does not describe the thermal resistance of the absorbent article, nor does Faulks provide any description as to how an absorbent article can be made to have a thermal resistance within the ranges presently claimed. The present claims recite an absorbent article having a thermal resistance (clo) value of less than 1.7 watts/m², where thermal resistance is a standard measurement of the insulating ability of garments. A benefit of the claimed absorbent article is that the core structure itself is inherently less-insulating - thus the need for high air permeable zones and breathable backsheets is unnecessary.

5. U.S. Patent No. 6,177,607 to Blaney *et al.*, ("Blaney")

Blaney discloses an absorbent article that contains an inner nonwoven layer positioned between the absorbent core and the breathable outer cover that "prevents perceived dampness on the external surface of the outer cover by lowering thermal conductivity between the absorbent core and the outer cover surface." Blaney, Abstract. The nonwoven dampness-inhibitor layer, while not affecting the breathability of the back sheet, traps insulating air. "This insulating factor lowers the thermal conductivity of the outer cover system... thus eliminating the "clammy" feeling [on the outer cover]." Blaney., col. 9, ll. 50-54. Blaney is not concerned with improving the comfort of the absorbent article against the user's skin, but rather is concerned with improving the "feeling" of the outer cover. In direct contrast to Blaney, the purpose of the

claimed invention is to *increase* the thermal conductivity of the product (reduce the thermal resistance) so that the product is more comfortable for the wearer.

6. U.S. Patent No. 6,238,379 to Keuhn, Jr. et al., ("Kuehn")

Keuhn discloses an absorbent article that exhibits an increased air exchange rate during use. "As a result, the article maintains the temperature and exhibits substantially reduced levels of hydration of the wearer's skin when in use." Keuhn, Abstract. Like Faulks discussed above, Kuehn does not describe the thermal resistance of the absorbent article, nor does Kuehn provide any description as to how an absorbent article can be made to have a thermal resistance within the ranges presently claimed. The present claims recite an absorbent article having a thermal resistance (clo) value of less than 1.7 watts/m², where thermal resistance is a standard measurement of the insulating ability of garments. A benefit of the claimed absorbent article is that the core structure itself is inherently less-insulating - thus the need for high air permeable zones and breathable backsheets is unnecessary.

7. U.S. Patent No. 6,448,464 to Akin et al., ("Akin")

Akin's disclosure is similar to Faulks and Kuehn discussed above. Specifically, Akin discloses an absorbent article that exhibits an increased air exchange rate during use. "As a result, the article maintains the temperature and exhibits substantially reduced levels of hydration of the wearer's skin when in use." Akin, Abstract. Akin teaches that the absorbent core contains "zones of high air permeability" and zones of high absorbency, which are "not designed to transfer a high level of air and vapor from the interior of the diaper." Akin, col. 13, ll. 59-61. Like Faulks and Kuehn discussed above, Akin does not describe the thermal resistance of the

absorbent article, nor does Akin provide any description as to how an absorbent article can be made to have a thermal resistance within the ranges presently claimed. In contrast to Akin's disclosure, the present claims recite an absorbent article having a thermal resistance (clo) value of less than 1.7 watts/m², where thermal resistance is a standard measurement of the insulating ability of garments. A benefit of the claimed absorbent article is that the core structure itself is inherently less-insulating - thus the need for high air permeable zones and breathable backsheets is unnecessary.

In summary, the prior art discovered by the applicants during the pre-examination search relates to: (i) absorbent cores that include tow fibers, superabsorbent particles, and tackifying agents; (ii) apparatus and methods for predicting fabric comfort; and (iii) absorbent garments that provide lower skin temperatures and hydration values. The claimed invention recites an absorbent article having a thermal resistance (clo) value of less than about 1.7 watts/m². None of the references, alone or in combination, suggests the measurement of the thermal resistance of an absorbent article, or a thermal resistance value for an absorbent article as it relates to wearer's comfort. The advantage of the claimed invention is that the combination of materials provide an absorbent article with a low-insulating value. The prior art references fail to show or suggest a combination of materials that provides this benefit.

CONCLUSION

On the basis of the foregoing, applicants respectfully request granting this Petition To
Make Special so that the application will be taken up promptly.

Respectfully submitted,

By:



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